XVIII

Means of subsistence of the Munduruco -- Hunting -- Cultivated Plants -- Wild Fruits.

224 The Munduruco, living as they do among vast plains and virgin forests, being skillful hunters and powessing excellent hounds, owe their subsistence largely to hunting.

They also practice some husbandry which, though still quite rudimentary, is of considerable help to them. [119]

Many wild fruits also grow in the region, some of them excellent.

I will not enumerate all the various kinds of game which are to be found in those parts, where tapir, deer, wild pig, mutum [?] and the inhambu and jacamim birds occur in such abundance. I will, however, provide below a list of all the plants cultivated by the Munduruco, and another of the wild fruits, with the corresponding names in their own language:

Cultivated Plants

[English], Portuguese or Tupi Term	Munduruco Name
manioc	mocetá
sweet manioc	mocepeun
large white yam	puerá erechache
large purple yam	puerá aniucate
small white yam	auairá
small purple yam	anauerá aniucate
sweet potato	uixiá
pineapple	para-á
papaya	ação-á
pepper	aium-á
sugar cane	canipec
timbó liana	comopi
cotton	bruun-á
maize	muiracá

[English], Portuguese or Tupi Term	Munduruku Name
large bean	uriteí
banana	acouhá
S. Tomé banana	acoreçempá
large taja	pan-an-uan
mandioca	mocorá
reed	bepe
jamaru (gourd)	oiaiá

[120]

Wild Fruits
Fruits of the forest and brush

Para chestnut [Brazil nut]	bemuin
assaí	oçoreme
muriti [fruit of that palm]	inhereçeá
bacaba	barurucá
patauá	uadhiu
uxi	uiruá
pequiá	xaá
abio	anacaread
forest caju	berecerá
maracock? [passion fruit]	maçacuiá
bacuri-peri	uaremeça
sage	utuá
araticu	bocuboca
mocajá	uacuriá
anaja	uaritaia
copu-ahi	acaraçá
pajurá	cobican-a
cumaí ([Port.] solvashinha [small sage])	iubaá
massaranduba	cirara-á
forest cacao	uadherá
jutaí or jatubá	[sic]
copu-assu	acaraçá

1: Tocantins--42 C-6 (1873) 1877 SQ13 Mundurucu SQ13

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Plants cultivated in Munduruçu villages (1)

1. I owe this technical outline to the courteous collaboration of Dr. Lourenço José Ribeiro da Cruz Rangel, distinguished botanist from the National Museum [Rio].

manioc	Manihot utilissima, Linn.; euphorbiacea fam.
sweet manioc [122]	Manihot aypim, euphorbiacea fam.
large white yam large purple yam small white yam small purple yam	Dioscorea bulbifera, dioscorea sativa, Linn. Dioscorea fam. There are many different yam species, such as: Dioscorea dodecaneura, Vall.; Dioscorea hyperifolia, Velloso; Dioscorea tribola, Vil.; Dioscorea brasiliensis; etc., etc.
watermelon	Cucurbita citrullus, Linn.; cucurbitacea fam.
jerimu	Cucurbita maxima, D.C.; cucurbitacea fam.
sweet potato	Convolvulus edulis; convolvulacea fam.
pineapple	Bromelia ananas, Linn.; bromeliacea fam.
papaya	Caryca papaya, Linn.; papayacea fam.
pepper	Many fruits belonging to different families and genera go by the name of pepper; but the Indians know best and use most the Indian pepper, Capsicum pendulum, Velloso; solanacea fam.
sugar cane	Saccharum officinarum, Linn.; graminacea fam.
timbó	The timbó liana, also known as cururupé, is Paulinia pinnata; and the Rio de Janeiro timbó is Physalis heterophilla.

1: Tucanidae--43 C-S (1878) 1877 SQ13 Miscellaneous SQ13

241
137

Beside these, the Serjania genus also submerses some poisonous varieties that
[125] go by the name of timbó, such as S. caracasana, S. clematidifolia and S. lethalis--especially the latter as its name indicates.

cotton — Gossipium herbaceum, Lamarke; malvacea fam.

maize — Zea mais, Linn.; graminacea fam.

large bean — Bean, Vicia sativa, Linn.; leguminosa fam.

There are many bean species, nearly all of which belong to the Phaseolus genus; leguminosa fam.

banana — Pisca banana, Musa argentea; plaintain, Musa sapientum; dwarf banana, Hexandria monoecia, Linn. These are all of the musaceo family.

S. Tomé banana — Musa paradisiaca, Linn.; musaceo fam.

large taió — Caladium esculentum, Linn.; aroides fam.

reeds — The reeds used by the Indians to make arrows belong to the wild cane, Anthoxanthium gigas; graminacea fam.

calabashes — Calabash, Cucurbita lagenaria, Linn.; Cucurbita leucabias, Ducil.; genera of cucurbitacea family. The term "calabash" is used to designate various species of the genus Cucurbita, cucurbitacea family, some of which are edible and others poisonous.

village hunters during the coming year by keeping her children close by and in large numbers. The reply is always favourable.

Then he calls in turn upon the "mother" of the deer and of all other animals the Munduruku wish to encounter in the course of the hunt.

The fishing celebration is similar in every way.

In addition to these ceremonies connected to the tutelary deities of hunting and fishing, the Munduruku have a yearly cultivation celebration at the start of summer. [134]

Men and women stand in a row, blowing a kind of horn called kun; while singing and dancing they call upon the "mothers" of manioc, maize, etc., in the following way:

"Oh, 'mother' of manioc, favour us with the fruit of thy children. Do not allow us to go hungry. Every year we entreat thee; we never forget thee."

The shamans sing this invocation before the people, who repeat it in chorus.

The Munduruku rum is follows:

"Mucĕipisi eirũ bere bereme u tiridat imemdat dari chipaume mucĕ dĕ aipanem itabongue daũc tarabora ama epiterpĕne daũc imemdat tutu utũ-dat arairai uiccĕipe ixi abime pame euatu abime eirũ bereremu bene que meaipaubate uire mon otie canoi dãrai pamne tamaa."

XXIII

Mission of Bacabal -- History -- Persistent struggle between the leading citizens of the district and the missionary

The Imperial Government has spared no effort to bring into the lap of civilization those bands that wander through the valley of the Upper Tapajoz. It was to this end that the Mission of Bacabal was founded in 1872 by order of the Government.

This mission, calling as it did to all the Munduruku Indians who lived on the banks of the Upper Tapajoz, was the immediate

2: Kruse M-5 (no date) 1934
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699 Madeira and the Xingu are not *parentes* to the Tapajós Mundurucú; they are *barriguda*, "relatives", as explained previously.

The Brazilians are called Barurenru. They are held in esteem, as are also the Parawan the inhabitants of Belem do Pará, and the Bindicanerun the inhabitants of the capital. The "Cearenser" [people of Ceará ?], the Caraiwa known as "Messerbelden" have a bad reputation. The Judenwa the Jews, are hated, as having [738] treated the Mundurucú very badly? after a certain Jew brought in measles on the Cururu and the Barra in 1880, starting an epidemic to which a large number of Mundurucú and Apiacá fell victims. friendship became definitely a thing of the past.

Some Notes on General Culture

[740] The basis of the economic life of the Mundurucú is hoe culture. They maintain that formerly manioc and all other domesticated plants were unknown among them and that they used to obtain their food supply solely through hunting and through gathering [667] wild fruits. In their hunting they use arrows made of single pieces of wood. The Mundurucú never kills his domestic animals, [738] but he will partake of such meat if another has it at hand. The [738] wild fruits are gathered by the women. Shortage of food can 761 easily prevail, but is not the rule. If meat and fish are lacking, there are wild fruits and the products of the gardens. For the rest the Mundurucú endures enforced fast with stoic patience without indulging in futile complaints.

742 The Mundurucú remember well the time when they used huts with conical roofs. These huts have now been superseded by quadrangular ones with the corners almost always rounded off.

776 The Mundurucú have a very clear and sharply defined belief in a Supreme Being. He is called Karusakaibé, and appears to have been a historical personage. He is prayed to: I have gathered a collection of such prayers. More about him will appear infra.

562 More too will be said below about social organization as it prevails among the Mundurucú which topic is a chief one of the present paper. The foregoing summary data are given merely as a background. As regards social organization we may however premise here that the man holds a position of predominance among the Mundurucú. Nevertheless the woman is decidedly respected.

855 On the part of both man and woman, love for the child is marked.

1/A [See errata sheet, category III, p. 5 — A.—Analyst]

177 All they
181 do have one curious custom in common with their neighbors the Maues. They expose their daughters to continuous fasting and to the smoke in the gable of the hut when the latter pass from childhood to womanhood.

244 In agriculture the Mundrucus have an advantage over others only
[44] in so much as the power of their numerous and warlike tribe (I heard a figure of 18,000 given and even one of 40,000) makes their plantations more secure; also the rather dense population make dependence on hunting and fishing alone unfeasible. They grow some cotton and a great deal of manioc. The flour ground from manioc is packed in
[409] baskets and the wide leaves of palms, spice stalks [Würzstiele] and heliconias and regularly sold to the mariners in Tapajos now that they have established friendly relations. In the area near the Brazilians
364 each family lives by itself in a conical hut. Today these are often not built individually in isolated places throughout the forest but are grouped into villages. Those Indians not yet in a neighborhood of whites occupy large, open huts as a community of several families. But even in the
[428] mission I found near their houses the preserved heads of slain enemies and numerous skulls of larger game animals stuck up on poles. Everything about the appearance of these savages made it evident that they consider themselves mighty hunters and warriors and that they strive to maintain their hegemony in the area. To this their name has reference.
101 It is from the Tupi language. Mundrucus, Mondorucus means either: "those who plunder together" (from monda "meal," ru "together," cu, co "plantation, property), or: "those who practice (ico) cutting off (mondoc)", that is to say cutting off heads. Moturicus, from moturun moteryc and ico, means: "the thaker, the thief [Mörderer]." [391] Very widespread is the nickname Paiquizé, Paia-kyce, that is "Father Knife, Decapitator." Castelnau (III. 106) lists the Aruqás as living among the Mundrucus on both banks of the Arinos, and they are probably identical with the Oropias already mentioned (p. 204, 383) who are also found on the Madeira river.

726 Their military organization is begun in peacetime. Every man capable of bearing arms cuts a notch in a stick that is sent around and by this he pledges his participation in war. In wartime the chief has power of life and death over the individual. That they were in a state of war with the Apiacas was not told me. * For their attacks they

* The Picobyé (in Pohl II. 183) or Paicobejé do not belong here but are a tribe belonging to the Macamecrans.

4: Horton E-4 (no date) 1948
SQ13 Mundurucu SQ13

Santarém and *Cametá* in 1788 and again in 1794. They attacked the *Mura* in the Madeira River region and a few years later dispersed their southern neighbors, the *Parintintin* (*Canamixi*). Their next expedition, involving an army of some 2,000 warriors, is said to have crossed the Xingú and Tocantins Rivers and to have reached the western limits of Maranhão Province. The expedition is said to have been defeated and turned back by the *Apinayé* (see Steinen, 1937), but according to Nimuendajú, it may be doubted that the *Munduruci* actually went so far east. A Neo-Brazilian punitive force fought a 3-day battle with them on the Rio do Tropas (in 1796). Peace was established in 1798 or 1796.

Except for minor conflicts with neighboring tribes, the *Munduruci* abandoned warfare and gradually relinquished the great territory they had seized. Missions were established on the Tapajós in 1799 and on the Madeira in 1811. By 1885, the *Munduruci* still living on the Madeira River had been sufficiently acculturated to be described as "civilized" (Hartt, 1885). A few of the villages of the Tapajós region are said to preserve as much of the old culture as can survive without military organization, warfare, and head hunting (Steinen, 1942).

The site of the tribe prior to its northward drive along the Tapajós is not definitely known. Kruse (1936) believes that they lived adjacent to the *Apinayé* in Matto Grosso; Martius (1867) thought that language and customs pointed to an origin still further south. It is Nimuendajú's opinion (personal communication), however, that the *Munduruci* were originally located on the Rio do Tropas, where their principal settlements are found today and where the punitive expedition of 1794 found their chief military strength. *Munduruci* legend attributes their origin to the town of Necadenore in this area.

CULTURE

SUBSISTENCE ACTIVITIES

The *Munduruci* subsist partly on horticulture and partly on hunting, fishing, and gathering. Tocantins' (1877) list of plants cultivated by them includes two species of manioc, sweet potato, pineapple, sugarcane, various peppers and beans, and several species of bananas. Other authors mention cotton, tobacco, and genipa. Tocantins names some 30 noncultivated plants utilized in *Munduruci* economy. Martius (1867) says that this tribe formerly gathered wild rice along the Madeira and Ituriá Rivers. They eat ants, larvae, and honey.

Some of the *Munduruci* now have cattle. Though they do not use these as food, they will eat the meat of domestic animals if it is offered them.

In the aboriginal culture, wild fowl were kept in cages to provide plumage for the featherwork described below.

The *Munduruci* are said to show great affection for their dogs. Women suckle puppies; when a dog dies it is given the same form of burial as a human being.

There are no published descriptions of *Munduruci* hunting techniques, but accounts of hunting rituals indicate that tapirs, peccaries, hares, deer, and agoutis are hunted. One ritual simulates the use of a runway of stakes to trap peccaries. Intensive hunting occurs during the summer, when many families occupy temporary huts in the brush.

Climbing was done with climbing rings, a [illegible]

[68] loop of vine passed around the feet causing sufficient pressure of the foot against the sides of the trunk to enable the climber to ascend the tree lightly by a series of jumps. For fruits located far out on limbs, hooked sticks were used to drag the limbs down or the climber shinned the limb off. These fruits were not a staple, but they were a valuable adjunct to the diet and a greatly appreciated delicacy.

[69] Horticulture

Wanderuré gardening was done by the slash and burn method used all over the tropical areas of the New World. The garden was cleared of trees and underbrush at the end of the rainy season, the felled vegetation was allowed to dry throughout the dry season, and the plot was burned over before the first rains. Burned branches and the smaller trunks were dragged off to one side and the ground was then ready for planting after the first rains, usually in the beginning of September in this region.

Among the plants of New World origin planted by the Wanderuré were several varieties of bitter manioc (Manihot utilissima) and sweet manioc (Manihot spp), yam (Dioscorea sp.), sweet potato (Ipomoea batatas), maize, beans, squash, pineapple, and pepper. At some time after the advent of the whites in the Western Hemisphere such plants as banana, rice, potato, and sugarcane were introduced. Cotton, although native to the New World, was not adopted and used by the Wanderuré until the 19th century. The staple garden product and chief starch source of the Wanderuré was bitter manioc.

[77]

The agricultural land exploitable by each village was more than adequate, but it was by no means utilized. Amazonian forest soil is generally of extremely poor quality. It is loose and friable and thus suitable to the simple digging sticks used by the shavtighras in planting, but it lacks the colloids essential to hold the minerals in the topsoil. The result is that the minerals are leached into the subsoil by the heavy annual rains. However, there is some variation in soil quality even in this fairly uniform environment. Much land is unusable in rumfurosenia due to being periodically inundated or because it is sandy, grass covered savannah. The utilizable forest land is divided by the rumfurosenia into black earth, red earth, and clay earth. The latter two are further subdivided if they contain a significant percentage of sand. Black earth is the best land and is usually the only kind in which squash, melon, beans, and rice can be raised. These crops can be grown with uncertain prospects of success in red earth while maize can be raised in both. The tuber crops grow in all kinds of soil. Since black earth is not accessible to all villages, the list of rumfurosenia crops is often drastically reduced in certain locations.

The land cannot be used for more than two plantings and on the second planting, in all types of soil, only bitter manioc is raised. Certain crops, such as pineapple, replant themselves. The reason for this two planting system is obvious when one considers that bitter manioc matures in about eight months on the first planting and from fourteen to eighteen months on the second in the already "tired" soil. A third planting would yield little and, also, as the <u>caboclo</u> says,

"The jungle takes over by that time." Fortunately, there was adequate virgin forest or old second growth forest available to meet the needs of the population and they simply cleared new gardens. The usual system was for each man to have one garden in first planting and another in the second planting.

The rapid exhaustion of the soil and the plentifulness of new garden sites explains the absence of concepts of property in land among the Wunduruo. When the best forest lands within a convenient distance were exhausted, the village moved a short distance to the proximity of fresh soil. This occurred every five to ten years among the aboriginal Wunduruo, although the present depleted populations may remain in one site for from 40 to 50 years. The same causes that operated to cause individual property in land meaningless apply to the family and village level also. In Wunduruo society there was no land holding unit. However, a definite feeling existed that the man who chose a garden site and initiated and directed the labor upon it was entitled to its proceeds. This man thereby became the "owner" of a completed garden, but not of the terrain itself. Even this was a very loose concept as food was freely shared among relatives and a person who, for some reason, did not have a garden was given food or allowed to take it from the garden of another.

Wunduruo horticulture involved a high degree of cooperation. The heavy work of clearing the forest was done by an all-village male work group. Each man who planned a

garden invited all the other men of the village to help him. He supplied the food, usually pale fruit and sweet manioc beverages, consumed while actually doing the work. The work was done under the general supervision of the man whose garden was being cleared. However, his directing activities consisted of little more than deciding the location and extent of the garden. The burning and final clearing of the garden were done by the owner, usually aided by other members of his household. He and his wife planted all of the lesser crops, but the planting of manioc was done for each garden by all of the people in the village as this was a more extensive operation and was well adapted to the labor of a large group. The men dug the holes for the planting of the manioc stalks while the women gathered and cut the stalks and dropped the sections into the holes.

Other crops were harvested as they ripened, but manioc, which can be left in the ground for a year, was harvested as needed. Almost all vegetables were gathered in from the gardens by the wife of the owner of the garden assisted by one or two women of her household, but the manioc was brought in by all the women of the household. The tubers were dug up from any one of the gardens belonging to the members of the household, processed by all the women of the house jointly and shared by all the members of the extended family dwelling within it. Each house had one large flat stone that was used as a griddle to bake the flat cakes of manioc flour, or beiú, as it is called in the lingua geral.

6: Murphy E-5 (1952-1953)1956
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their new quarters was exactly like the one in which they had previously lived, and they found themselves again in the midst of many fellow clansmen, their "brothers" and "fathers." The village economy, which will be discussed below, necessitated no great personal readaptation nor did it require extensive retraining. If the newly-wed man was of the same village, it was not even necessary for him to move his hammock. He brought his game to a different house and he had open rights to his bride (with whom he probably had been covertly consorting). At present, the majority of the men of each Mundurucú village were born in other villages and there is no reason to believe that this was different in the nineteenth century. Although a young man might be expected to mate with an eligible girl of his own village, patterns of preferential cross-cousin marriage apparently outweighed the factor of physical proximity. It was also the custom for a young man of marriage age to visit a number of villages in search of a mate. Whether or not the residents of the village men's house were native to the community, the institution served to integrate the men as a group which functioned as an economic unit in times of peace and a military organization during the frequent wars.

The basic male work unit consisted of all the males in the village. There was no task of any importance in which the men of one dwelling house, i.e., the house in which their wives resided, usually worked as a productive unit. Large, all-village communal hunts were common, and game was tracked down and surrounded or ambushed with the help of dogs. These collective techniques were especially important when hunting the large, migratory herds of wild pigs, the main meat supply. Frequently, smaller groups of men pursued the chase, but there was no invariable tendency for these parties to consist of the men of a single household. Members of all households might be numbered in each of several small hunting parties.

Garden clearing was always done by a work group of all the village men, and it was considered a serious breach of etiquette for a man to refuse to co-operate. The subsequent planting of manioc shoots involved considerable labor, and all the village men and women performed this labor for each garden in turn. The rest of the planting and all of the harvesting and processing was left to the women. Occasionally, a couple went to the garden alone, but these excursions were looked upon as romantic jaunts.

Although there was no ownership of the forest land, the completed gardens were "owned" by individual men. However, all labor performed upon them was done by the men of the village as a whole, and by the women of the household in which the owner's wife lived. Also, food sharing was extensive. The products of the hunt were divided equally and distributed throughout the village, and, furthermore, each household provided a share of the food consumed in the men's house.

Due to the high degree of co-operation between all the men of the village, the newly-wed male did not become integrated into a household-oriented economy. This undoubtedly served to ease any strains in adjusting to a new village, for, in terms of kinship, the group of village males was substantially

?: Murphy E-5 (1952-1953)1957 SQ13 Munduruca SQ13

tional subsistence activities, it placed severe inhibitions upon the economic duties formerly customary.

Warfare did not end until about 1912, over a century after the Munduruci had made peace with the whites. During this time certain internal modifications had occurred in the social structure, but social cohesion had remained intact and the boundaries of the society were still sharply defined and vigorously maintained. Although members were lost to Brazilian society, a hard core of population living near the upper Tapajós River made war upon other Indian groups with energy and success. This was not "aboriginal" warfare; it was frequently waged on behalf of the whites and with firearms supplied by them. But the only information on Munduruci warfare of any value pertains to the 19th century and was derived from older informants and published sources. This, then, is the proper time dimension of our study, and we turn now to a consideration of the relevant aspects of Munduruci culture during this period.

The Munduruci villages were located in the midst of grass-covered savannahs surrounded by dense forest, but their subsistence economy was essentially the same as other groups of the Amazon rain forest. Hunting was important throughout the year, and fishing was primarily a dry season activity. Garden crops included the usual range of Tropical Forest vegetables and fruits, and bitter manioc was the staple product. Manioc flour, known as *farinha* in Brazil, was also traded to the whites by the Munduruci and constituted their most important commercial commodity in the period prior to the rubber boom.

The division of labor and the organization of work reflected certain basic aspects of Munduruci social structure. The men hunted and fished and carried out the strenuous task of garden clearing, while the women did the rest of the horticultural work and tended the households. Residence was matrilocal, and the females of each house formed a nucleus of matrilineally related kinswomen; each such household was also a communal work and consumption unit. Each Munduruci village had about three to five such houses and a men's house; the latter was the locus of male activity, for all the village men slept, ate, worked, and relaxed within its confines.

The membership of the men's house was eclectic in relation to descent. The Munduruci were divided into more than forty patrilineal clans, linked by loose and unnamed phratric affiliations and parcelled almost equally between patrilineal, exogamous moieties. But the matrilocal residence rule and the resultant shift of men from their natal households and, commonly, villages continually blocked the formation of co-resident descent groups.

Despite the diversity of their local and lineal origins, the men of a village, and ultimately of the whole tribe, were expected to maintain harmonious and cooperative relations. Cooperation in economic activities transcended the minimal necessities of their ecological adaptation, and any open show of aggression between men was strictly prohibited. The men's house provided the organizational framework within which this unity was expressed, while male

6: Murphy & Steward E-5 (1952-1953) 1956

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Montagnais E/16

M4

121

128

position of acculturation toward individual families has not been adequately recognized for South America.

M4

175

The Mundurucú have been in active contact with European civilization for the last 150 years, of which only 80 years have been spent in rubber exploitation. The following description of the pre-rubber period Mundurucú does not purport to depict the pre-contact, or aboriginal, Mundurucú, but refers to the middle of the nineteenth century. Earlier changes in Mundurucú culture form the subject of another paper (Murphy 1956).

M4

The Mundurucú have inhabited the uplands forests and savannah lands east of the upper Tapajós River in the state of Pará, Brazil, for at least two centuries. The rainfall in this region is quite limited, and the predominant features are the high forest and thick vegetation typical of the Amazon basin. The Mundurucú attain the open country for their villages because remoteness from the larger streams afforded some protection from river-borne canoe attack and relief from the swarms of insects which infest the river banks, while the absence of forests immediately adjoining the villages gave some security against the dawn surprise attacks favored by nearly all tribes of the region. These attacks were difficult to launch without cover. Since the Mundurucú used water transportation only sparingly, isolation from the rivers was not a hardship.

M4

It has been noted that the nineteenth century Mundurucú and northeastern Algonkians were on the same level of socio-political integration. The simple, local-territorial nomadic hunting bands of the Algonkians were roughly equivalent to the semi-sedentary villages of the Mundurucú. In both instances, the local group consisted of a multi-family, autonomous community. Under certain circumstances, the various Mundurucú villages tended to integrate on a tribal level, but there were no permanent trans-village political controls. That an Mundurucú village could function in isolation, since there was inter-village marriage and periodic cooperation in warfare and ceremonialism, does not necessarily imply a higher level of integration in economic or political activities. Actually, it can be argued that Northeastern Algonkian bands were autonomous but by no means isolated from other such units.

The Mundurucú and Algonkians were integrated on the same level, but their cultures differed structurally or typologically and in content. Patrilineal clans and moieties in Mundurucú society made kinship ties more extensive and pervasive. Algonkian subsistence was based on slash-and-burn horticulture. Although the heavy work of clearing the forest was done by men groups consisting of all the village males, garden care and manioc processing were carried out by the women of the matrilineal extended family. The chief occupations of the men were hunting and warfare.

M4

M4

Leacock's reconstruction of the aboriginal society of the Eastern Montagnais shows the nuclear family to have had greater functional importance than among the Mundurucú. The Montagnais family was a relatively stable unit within the shifting and amorphous hunting bands, whereas the Mundurucú pattern was the converse. Each Mundurucú household was a stable unit composed of women and their female offspring. The Mundurucú had the seeming paradox of matrilocal extended families in a society of patrilineal clans and moieties. The men married into these extended families from similar units in the same village or from other villages. However, there was no need to integrate a husband into the extended matrilocal family of the household, because the locus of his activities was the men's house. All males upon reaching adolescence slept in the men's house, which was located on the eastern perimeter of the circle of houses composing the village. The females of each household prepared and sent food to the men's house to be eaten in a communal meal. The men's house was also the center of male work and relaxation. The most immediate economic tie of a man to his wife's house was that he brought his daily take of game there. Communal distribution of game, however, made this economically

C: Murphy & Steward E-5 (1952-1953) 1956
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unimportant. Otherwise, the husband supplied his household for purposes of sex, to play with the children, or to take a between-meals snack. 593

Marital breakups caused no great social maladjustment. The woman and her children simply lived on in the household and took another husband. If the ex-husband was originally from the same village, he did not even have to move his hammock from the man's house. The husband and wife performed no economic tasks together, and the normal division of labor operated mainly within the context of the village as a whole rather than the nuclear family. [502]

The yearly cycle of activity of the pre-rubber period Munduruc was not performed by wet and cold seasons as in Labrador, but by rainy and dry periods. At the end of each rainy season, April on the upper Tapajós River, the trees and vegetation in each prospective garden were felled by a work party composed of all the men of the village and allowed to dry out. After clearing the forest, many families went in small groups to the larger streams where fishing was good during low waters and where they could hunt the many game animals which left the interior forests to feed and drink at the streams. 221 241 [224 227]

After two to three months it was necessary to return to the village to burn the felled vegetation in the garden clearings before the first rains wet the forests. After the early rains had sufficiently moistened the ground, individual gardens were planted to manioc by the cooperative efforts of all the men and women of the village. Other vegetables were planted by the women of the household of the man who instituted the gardens, and who was formally considered to own it.

Maize, squash, beans, and other vegetables were harvested by January or February and eaten immediately. The root crops, including bitter and sweet manioc, matured at the end of the rainy season in new gardens. A longer period of maturation was required for root crops in replanted gardens. Bitter and sweet manioc can be harvested as needed; this natural storage made these crops invaluable for year-around subsistence.

The bitter manioc, by far the most important garden product, required considerable labor to render it edible. The tubers were grated, the prussic acid was extracted by use of the tipiti, or basketry press, and the pulp was then toasted either in the form of the native beiju, a flat manioc cake, or of farinha, the coarse Brazilian manioc flour. Farinha was sold to Brazilian traders. All phases of manioc processing were carried out by the women of the extended family household, who worked together under the direction of the oldest woman of the house. The labor was divided according to specialized tasks which, however, probably contributed as much towards making the operation pleasant as efficient. 252 [431]

Farinha was thus a collective product in that it involved the communal labor of the village in garden clearing and manioc planting, and the efforts of the women of the household in processing. Moreover, it was sold to the traders by the village as a whole and not by individuals. In this barter the hereditary village chief represented the village, and the proceeds from the sale were divided equally among the contributing households. 47% 439 [622]

Bates, the British naturalist, describes the mode in which this trade was conducted in the mid-nineteenth century, when the first small quantities of rubber were traded by the Munduruc along with larger amounts of other produce: 439

> "They [the Munduruc of the upper Tapajós River] make large plantations of mandioca, and sell the surplus produce, which amounts on the Tapajos to from 3000 to 5000 baskets (60 lbs. each) annually, to traders who ascend the river from Santarem between the months of August and January. They

THE SETTING

makes a dispersed settlement pattern necessary. Transportation in the region is only by canoe, and this, combined with the long work day, necessitates the placement of the house near the rubber avenue. The result is an average distance between houses of one mile, longer intervening stretches occurring in districts poor in rubber and thus submarginal in today's market.

The rubber tapper's work is not finished when he returns to his house, for he still must smoke and thereby cure and congeal the liquid latex. This process usually occupies about three hours, but if his yield is great, it can take up to five hours. Since his poverty is such that he can afford to buy only certain staple foodstuffs, he is often forced to fish until late in the night after he has smoked his rubber. The small amount of game eaten is usually killed by him during his rounds of the rubber trees. The only other important subsistence activity, slash-and-burn agriculture, is not often practiced by the rubber cutter because good land within a feasible distance of his house is rare, because the patron, to whom he usually is indebted requires extra services in addition to a maximum production of rubber, and because he is resigned in apathy to his hopeless situation. Under these circumstances of great distance from his neighbors and preoccupation with a barter economy requiring complete individualization of production, the bonds of economic cooperation and interdependency are weak within the local community. The caboclo has no recourse because he is usually held in debt servitude to the trader, and because the region, in its present state of economic development, offers few alternatives. This, then, is the milieu into which the remaining Mundurucú are being progressively drawn and into which many of their forebears have already been assimilated.

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222 articles collected are several species of palm fruit, the Brazil nut, the fruit of the *cajú* tree (*Anacardium corymbonum*), wild cocoa, *mangaba*, and several varieties of berries.

222 462 Wild foods found only at long distances from the village are always gathered by the men on the way home from hunting, especially if they have been unsuccessful. When the fruit trees are near the village, one man or an older boy usually goes out with a party of women, the male to climb the tree and get the fruit, the women to carry it home. Climbing is done with the climbing ring, a loop of vine passed around the feet, which gives sufficient pressure of the feet against the sides of the trunk to enable the climber to ascend the tree lightly by a series of jumps—similar to the principle employed by our lumbermen using a belt. For fruits far out on limbs, hooked sticks are used to drag the limbs down, or the climber chops the limb off. Fruits are not a staple food, but they are valuable adjuncts to the diet and greatly appreciated delicacies.

[481]

[262]

HORTICULTURE

241 Mundurucú gardening is done by the slash-and-burn method used throughout the tropical areas of the New World. The garden is cleared of trees and underbrush at the end of the rainy season, the felled vegetation is allowed to dry during the dry season, and the plot is burned over before the first rains. Burned branches and the smaller trunks are dragged off to one side and the ground is then ready for planting after the first rains, which usually occur in the beginning of September in this region.

241 262 Among the crops of New World origin planted by the Mundurucú are several varieties of bitter manioc (*Manihot utilissima*), which form the dietary staple, sweet manioc (*Manihot aypi*), yam (*Dioscorea sp.*), sweet po-

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tato (*Ipomoea batatas*), maize, beans, squash, pineapple, and pepper. At some time after the advent of the whites in the Western Hemisphere such plants as banana, rice, potato, and sugar cane were introduced. Cotton, although native to the New World, was not adopted and used by the Mundurucú until the nineteenth century. Similarly, although the potato is native in western South America it was not found aboriginally in the eastern part of the continent.

The agricultural land exploitable by each village is more than adequate, but not unlimited. Amazonian forest soil is generally of extremely poor quality. It is loose and friable and thus suitable to the simple digging sticks formerly used by the aborigines in planting, but it lacks the colloids essential to hold the minerals in the topsoil. The result is that the minerals are leached into the subsoil by the heavy annual rains. There is some variation in soil quality, however, even in this rather uniform environment. Much land is unusable in Mundurucú territory because it is periodically inundated or because it is sandy, grass-covered savannah. The tillable forest land is classified by the Mundurucú into the categories of black, red, and clay earth. The latter two are further subdivided if they contain a significant percentage of sand. Black earth is the best land and is usually the only kind in which they raise squash, melon, beans, and rice. These crops can be grown with uncertain prospects of success in red earth while maize can be raised in both. The tuber crops grow in all kinds of soil. Since black earth is not accessible to all villages, the list of Mundurucú crops is often drastically reduced in certain locations.

The land cannot be used for more than two plantings. On the second planting, in all types of soil, only bitter manioc is raised. Certain crops, such as pineapple, replant

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241 311 themselves and yield for several years in abandoned gardens. Other plants, such as timbó and some fruit trees are also productive long after the garden goes out of regular cultivation. The reason for planting a field only twice is obvious when one considers that bitter manioc matures in about eight months on the first planting and in more than a year on the second in the already "tired" soil. A third planting would yield little and, also, as the local Brazilians say, "the jungle takes over by that time." Fortunately, there is adequate virgin forest or old second-growth forest available to meet the needs of the population, and they simply clear new gardens. The usual system is for each man to clear land annually and thus have one garden in first planting and another in the second planting. But men often feel that they have adequate crops and let a year pass without clearing forest; this is especially common if a housemate has a new garden.

[423] The rapid exhaustion of the soil and the plentifulness of forest land explains the absence of concepts of private or corporate property in land among the Mundurucú. When the best forest soils within a convenient range are exhausted, the village moves a short distance to the proximity of fresh soil. But the Mundurucú build new villages every ten years whether nearby garden land is scarce or not, and the present depleted population may shift within a one-mile radius over a forty- to fifty-year period. When conveniently situated forest is exhausted, they merely move out of this orbit to a new locale a few miles away, near which they remain for another long period. Villages probably moved somewhat longer distances in time past, when their populations exceeded two hundred people and pressure on the land was correspondingly greater.

[361] [166]

423 The same causes that operate to make individual property in land meaningless apply on the family and village

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level also, and there is no land-holding unit in Mundurucú society. The man who chooses a garden site and initiates and directs the labor upon it, however, is entitled to its proceeds. This man thereby becomes the "owner" of the yield of a completed garden, but not of the terrain itself. Even this is a very loose concept, for it will be seen that food is freely shared among relatives and fellow villagers. A person who, for some reason, does not have a garden is invariably given food or allowed to harvest from the garden of another.

The Mundurucú coöperate extensively in their horticultural work. Although almost all married men have their own gardens, the heavy work of clearing the forest is done by an all-village male work group. Each man who plans a garden invites all the other men of the village to help him. He supplies the food, usually beverages made of palm fruit and sweet manioc, consumed while actually doing the work. The work is done under the general supervision of the man whose garden is being cleared. His directing activities, however, consist of little more than deciding on the location and extent of the garden. These collective garden-clearing ventures are of doubtful efficiency. The participants generally dawdle on the way to their work, bathing, gathering fruits, and chatting. The actual labor is frequently interrupted by joking, conversation, eating, and little jaunts into the wood in search of parrots and pigeons. I have seen gardens being cleared by Brazilians and single families of Mundurucú in which far fewer man-hours produced equal results. Ethnographic literature presents many similar instances of collective labor for purposes of enjoyment and companionship. These same motivations obtain among the Mundurucú; but coöperation is also valued and demanded as a positive expression of social solidarity and has its roots in the social structure.

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241 476 462 The burning and final clearing of the garden are done by the owner, usually aided by other members of his household. His wife and the other women of the house plant all the lesser crops, but the planting of manioc is done for each garden by all the people in the village, because this more extensive operation is well adapted to the labor of a large group. The men dig the holes for the planting of the manioc cuttings while the women gather and cut the stalks and drop the sections into the holes.

The harvesting of bitter manioc and its later processing is woman's work and constitutes their most arduous and time-consuming chore. Bitter manioc contains prussic acid 252 and is inedible until the poisonous substance is extracted through a complex series of operations. The final product takes the form of the *beijú*, a flat cake which is the traditional "bread" of the Mundurucú and other Amazonian Indians, and is also made into two varieties of farinha (flour).

Beijú manufacture is a slow process, and the cakes are made today as delicacies only. The tubers are carried from [462] the gardens in burden baskets by the women and unloaded on the floor of an open-sided shed in the middle of the village. This shed serves as the communal farinha "factory" of the entire community. The women peel the manioc with steel knives, using quick chopping motions, and then grate them into a large wooden trough. The [462] grater formerly consisted of a number of thorny roots of the *paxiuba* palm, halved and placed side by side to form a sort of scrub board. Today, the tubers are grated against [177] the sides of five-gallon gasoline cans which have been cut out and punctated with a nail. The wet, grated mass is then placed in the *tipití*, an ingenious basketry press native to South America, which operates on the principle of the Chinese finger squeezer. The tipití is suspended at

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the Tropas, but some do business with the trader of São Martinho, on the Tapajós. The people of Cabruá live in three separate hamlets on the Tropas. At one, the most powerful shaman of the village lives with two younger men of his household, and another is occupied by another man of the same house and his son-in-law. These two men trade on behalf of their rubber-avenue co-residents, and the chief of Cabruá is not considered to be their representative in trade. The Cabitutú River has only one or two all-year residents, and these are Brazilian. A number of families of Brazilians and eight Mundurucú families maintain regular homes on the Tropas, however. The latter Mundurucú associate to a varying extent with the villagers during the rubber season and occasionally come to Cabruá to seek the services of a shaman or simply to visit, but they remain marginal to village life.

The Mundurucú of the savannah communities collect less rubber than those of the Cururú and far less than the the Brazilian tappers. The latter generally commence production as soon as the flood recedes in May or early June and collect until the rains and rising waters make their rubber avenues inaccessible in November or December. The efforts of the campineiros, however, are limited by their alternating residence between village and rubber-avenue dwelling. The residents of Cabruá have to clear land for gardens before they may depart, and this generally holds them until May. But only the more industrious Mundurucú leave at this time; many linger in the village until June or July, and in 1952 one man stayed until August. Rubber is collected until August, at which time the trees lose their leaves, and the yield drops off sharply for two to three weeks. Some Indians use this occasion to return to the village to burn the felled vegetation in their garden sites and then return to the rubber avenue until

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planting time a few weeks later; most, however, stay in the village. The average collecting season of the savannah Mundurucú thus lasts about two and a half to three months out of a possible period of six months.

The dwellings in which the collecting season is passed frequently consist only of a roof set on four or six upright posts, but others are larger and have walls of mud or palm leaves. Cooking is generally done in a shed connected to the rear of the house, in imitation of the typical north Brazilian kitchen. The rubber-avenue dwellings often house but one nuclear family, but if a larger group resides in the same house, all members of the nuclear family hang their hammocks adjacent to one another.

There is no firm rule dictating the composition of the membership of rubber-avenue dwellings. Residents of the same household tend to cling together during the dry season, but the limited number of rubber avenues accessible from one dwelling break up the larger extended families. In such cases, closer kinsmen within a household remain together. The availability of rubber avenues, in general, makes any strict rule of dry-season residence impracticable. They are limited in number, and a young man embarking on independent rubber collection must reside where an avenue is vacant.

The average Brazilian collector spends five or six days a week in his rubber avenue, but the campineiro rarely works more than four. And while a single Brazilian may have up to three separate avenues, working each on different days, no campineiro has more than one. Indisposition to intensive labor in rubber production thus combines with the maintenance of savannah-village residence to keep Mundurucú productivity low. The Indian collector leaves the house for his avenue early in the morning and generally returns by mid-afternoon. Besides his knife for

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cutting the bark and the metal cups in which he collects the rubber, he always carries his arms, hopeful for stray game. He wends his way through the forest, making an incision in the bark and setting a cup below it on the outward journey and collecting the latex on the way home. He frequently stops to collect fruit, shoot a monkey, or bathe. After returning home he cures the latex in a small shed built for that purpose. He then goes to the adjacent river and bathes; if it is not too late he may fish with a bow and arrow from the bank. On days when he does not visit his rubber avenue, the Mundurucú hunts or fishes. He is joined by the other men of the house if there are any; otherwise his pursuit is solitary, and the favored collective-hunting techniques cannot be employed. This and the general lack of firearms, which if he had them would make lone hunting more productive, result in a marked decrease in hunting during the dry season. Fish may be taken by individuals, and the kill of a few hours is generally ample for the needs of a nuclear family. On the other hand, a solitary hunter may pass two or three days without killing more than birds or a small monkey.

Large dry-season households commonly make gardens near their rubber avenues, but single family units rarely do so because they do not have enough workers to clear forest land. The advantages of rubber-avenue gardens outweigh the labor and inconvenience of clearing and planting them. The resident families have a local supply of farinha, which would otherwise have to be made in the village and transported to the rubber avenue, a difficult chore without canoes. Also, the land in the savannah country is inferior in quality to that near the larger rivers. Almost every rubber-avenue garden is in black soil, and this favored land is extremely scarce in the vicinity of Cabruá. These gardens are therefore frequently drawn upon to sup-

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ply vegetables that are not available in the village. Despite these apparent benefits, the complete harvest is sometimes not brought in, and part of the produce either rots or is eaten by animals while the owners are in residence in the village during the rains.

The division of labor during the dry season is the result of the size of the co-resident group. If the unit is small, the men and boys often help the women in the manufacture of farinha, but if there are sufficient females to help in the task, the men do not join them. Correspondingly, a man is sometimes aided in rubber collecting by his wife or younger sons. Fishing and hunting, also, is generally done jointly by only two or three men. Larger-scale timbó-fishing expeditions are infrequent because the people are so widely dispersed. The work of rubber collecting is, except for the occasional help of a wife or son, essentially individual. Even where a number of rubber tappers and their families share the same residence, each man has his own avenue and unites with the others only when the day's work is done.

Rubber extraction fractionates villages and households during approximately one-quarter of the year, and the changed mode of residence and patterns of coöperation result in a greatly increased importance of the nuclear family. One Mundurucú owned a canoe on the Tropas River and another on the Cabitutú; the only other mode of transportation and communication is by trails that parallel the rivers. But the distances between houses make visiting infrequent during the rubber season, and the residence groups pass most of the period in isolation.

The breakdown of larger social units is paralleled in the economic realm by the individuality of rubber production and private holding of rubber avenues. The latter are private property in a limited sense only. What is "owned" is

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182 439 villages of their populations comes from the outside. The quest of the Mundurucú for trade items and the equally intense effort of the traders to obtain increased rubber yields from their Indian customers has steadily drawn the latter deeper in the extraction industry. The limitations placed on their production by rainy-season residence in the savannah villages has, however, proved an obstacle to their expanding demand for trade articles. Many have overcome this block by the simple expedient of remaining in their rubber-avenue homes throughout the year and thus extending the period during which they tap rubber.

The internal factors that ease or make necessary such a move are thus complemented by the pull of trade. Emi- [166] gration is easy. The family already has a house at the rubber avenue which with some patching may make a suitable all-year residence. Many have producing gardens [241] which were originally made to provide food during the dry season, but which can serve equally well during the rains. Since these gardens are commonly in good, black soil, they are actually more desirable than those near the village.

182 166 361 621 Individual nuclear families sometimes move immediately from village life into isolated existence. This is, of course, almost always true of fugitive sorcerers. But the desire for sociability and economic coöperation commonly motivates the family to settle with or adjacent to other Mundurucú who preceded them in the migration. Or a small group of nuclear families that customarily resides together in the dry season may leave village life together. 182 476 621 These clusters of families help each other in hunting, gardening, and manioc processing, and they also pool their resources to buy a copper pan to toast farinha. Since they generally produce more rubber than they did as savannah residents, they also have the purchasing power to buy a

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476 226 [224] Hunting is infrequent and usually solitary, and fishing, unless done with timbó, requires the collective labor of only two people. Frequently, a man takes along his wife or son as a paddler when fishing with bow and arrow from a canoe. In the dry season, the all-year residents of Missão Velha join in timbó fishing at intervals of one to two weeks. If a large-scale expedition is contemplated, invitations are sent out to the families living in temporary isolation on the river banks. The residents of other villages who happen to tap rubber nearby are generally included in the party. The [797] largest fish-drugging ventures are usually organized by the mission.

241 476 [462] Coöperative gardening is most commonly done by the residents of one household, whether it represents one or three nuclear families. The men clear and burn the forest clearing, and both men and women plant, weed, and harvest. The same group is considered to own the garden produce, although the land is not owned here either. All household members share equally in the labor and results of farinha making. In Missão Velha, the residents of one-family dwellings sometimes join together in horticulture with one or two similarly situated families. As has been stated, this interhouse coöperation usually is between close relatives, although the same families do not necessarily pool their efforts every year.

415 252 422 [343] Missão Velha has one farinha shed which houses the copper pan and furnace for toasting the grated manioc, the tipití for squeezing out the poisonous liquid, several aluminum pans for setting the tapioca, and a hand-operated mechanical manioc grater. Each household, or [476] group of coöperating households, uses the facilities of the farinha shed in rotation and there is no coöperation or mutual help beyond the limits of the garden-owning group. The aluminum pans for extracting tapioca are individually

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clan, phratry, and moiety. In this way, the social system accommodated increased numbers through fission and the multiplication of similar component units.

Marriage in our earliest known condition of Mundurucú society was regulated by the exogamous moieties. Preferential forms of marriage were with the cross-cousin or the sister's daughter. Agnatic groups relinquished rights to the offspring of their women and to the women themselves after imposition of bride service upon the groom. The groom, during this temporarily matrilocal period, was not integrated in the wife's lineage and household but remained an outsider who slept in the men's house with the village bachelors.

The establishment of peaceful relations with the whites and the growth of trade with them in horticultural commodities, it has been hypothesized, set in motion a far-reaching series of modifications in Mundurucú social structure. The Mundurucú were horticulturalists before their contact with the whites, and trade in manioc flour and other produce did not constitute a technological innovation, as such. It did, however, place a greater premium on female labor, especially the coöperative and organized work that goes into farinha manufacture. In terms of the operation of the system of production, it became more crucial that the female work group have continuity and retain those members that it had trained. This was accomplished through matrilocality, which not only insured this continuity but provided a productive unit bonded by the solidary ties of demonstrable consanguinity.

One might say at this point that increased horticulture "caused" matrilocality. Or one might phrase the same proposition to read that "the function of matrilocality was to provide a fully coöperative and integrated work group in farinha production." Anthropologists would tend to say

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the former because the history of a change to matrilocality accompanied by the production of a garden surplus is documented. If no such historical information were available, one would probably state the generalization in the latter terms. The statements are, however, the same. But the causality is not quite so simple and mechanistic, the functional relation not exactly one to one. It was stated earlier that so far as change takes place in a system of functionally interrelated parts, it correspondingly occurs in a field of plural determinants. In the present case, this is manifest in the fact that matrilocality could occur in a patrilineal society and in the peculiar kind of matrilocality that emerged.

Murdock has argued convincingly that a patrilineal and patrilocal society imposes great obstacles to the development of matrilocality.[2] He presents in illustration a model of such a group, but one in which the kin-territorial unit possesses corporate rights to land. Under these conditions, he reasons, it would be difficult to impose the relinquishment of such rights on the members of the units. I share Murdock's view, but it must be remembered that there were no institutions of private or corporate ownership of productive resources among the Mundurucú. The lineages no doubt were significant coöperative units in production, and collective units in consumption, and had important political functions; but their only corporate proprietary rights were of a ceremonial nature. The individual male was, therefore, not faced with estrangement from economic resources in which he had a vested interest, nor with the problem that matrilocality would impose in the passing of such rights to his sons.

Beyond the question of property ownership, other possible inhibitions to matrilocality may be discerned. The

[2] Murdock, 1949, pp. 216–218.

14: Frikel
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[For a comprehensive examination of Mundurucu agriculture, see category 116, pp. 1-38.]